

ABSTRACT OF THE DISCLOSURE

An apparatus and method for designing a network are disclosed. The network is designed wherein nodes originate and terminate traffic to keep delay related to node-to-node delay-sensitive communication below a specified threshold. The method obtains an initial network topology including links and traffic routing based on a volume of traffic, allocates a maximum delay to each link in the network topology in proportion to the square root of an imputed cost for each link, sizes a bandwidth required for each link based on a current traffic routing and at least one of a maximum delay allocated to the link, determines link lengths and reroutes traffic according to shortest paths with respect to the determined link lengths.